

NEW SPECIES AND FORMS OF *GEOMETRIDAE*.

BY LOUIS B. PROUT, F.E.S.

## A. INDO-AUSTRALIAN.

## SUBFAM. HEMITHEINAE.

1. *Dysphania translucida* ab. *xanthora* ab. nov.*Dysphania cyane* ab. *xanthora* Warr., MS., in coll. Tring Museum.

♂ ♀. All the white parts bright yellow, only a little paler in the centre of the forewing, and usually in the cell of the hindwing. In addition, there is a very general tendency, especially in the ♀, for the submarginal yellow spots or bands to broaden, on the hindwing sometimes leaving only a narrow apical patch and a few very obscure posterior spots dark, on the forewing sometimes running along the veins to the termen.

Woodlark I., fairly common, together with the name-type (*translucida* Montrz., *Ann. Soc. Agric. Lyon* (2, viii. 409). Also a few from St. Aignan.

Might have been taken for a separate species, or for a modification of *numana* Cram., but for the presence of occasional, though rare, intermediates. I am inclined to suspect that *numana* Cram., *tentans* Walk., *translucida* Montrz., *subalbata* Warr. and very likely *tyrianthina* Butl. are all races of one very widely distributed species. It is not a little curious that one of the most westerly forms (*numana*, Amboina) should most closely resemble an aberration only found in the extreme east of the range of the collective species or group.

2. *Berta angustimedia* sp. nov.

♂, 28 mm. Structure and form of *acte* Swinh. (Hindlegs lost.)

*Forewing* with the white markings much more extended than in *acte*; basal area spotted with white; the fine interrupted line which, in *acte*, separates the proximal from the median area replaced by a slightly interrupted, partly double, band of white lunules, recalling that of *chrysolineata* Walk.; median area narrowed, especially behind, its anterior half predominantly filled in with white, only remaining green at its edges, in an 8-shaped mark about the discocellulars and slightly in subcostal region; postmedian white line deeply indented and thickened between the radials and especially posteriorly, where it is in consequence markedly farther removed from termen than in *acte*; distal area largely white, with irregular olive-green spots and streaks.—*Hindwing* with corresponding extensions of the white markings.

Khasia Hills, May 1896. Type in coll. Tring Museum.

A ♀ paratype in coll. Swinhoe, also from the Khasia Hills, shows the third joint of the palpus to be longer than that of *acte* ♀ and has the white in the median area of the forewing even more extended, forming in addition two patches in the cellules between M<sup>1</sup> and SM<sup>2</sup>.

## SUBFAM. STERRHINAE.

3. *Rhodostrongylus tremiscens* sp. nov.

♂, 30–31 mm.

Head and body concolorous with wings, the face and upperside of palpus darker, the vertex whitish. Antennal pectinations longer than in the allies—four or five times the diameter of the shaft. Hindtibia moderately dilated, with hair-pencil and three strong spurs.

*Forewing* broad, termen very slightly sinuous, SC<sup>2</sup> very shortly stalked; dark fawn-colour, with a slight umbreous tinge; lines slight, very slender; antemedian excurved and somewhat sinuous; median well beyond the cell-dot (but scarcely so far as in the allies), nearly parallel with termen from costa to R<sup>3</sup> or M<sup>1</sup>, then slightly more oblique inward, curving again so as to fall vertically on hindmargin slightly beyond middle; postmedian in its main outline nearly as in *bisinuata* Warr. (NOVITATES ZOOLOGICAE, ii. 98), but with the curves slightly less deep, on the other hand with slight secondary indentations which are not, or scarcely, traceable in that species; cell-dot distinct, slightly larger than in *bisinuata*; terminal line extremely feeble,\* interrupted at the veins; fringe ample, with a very fine pale line at base, then broadly darkened, again with a narrow dark line near tips.—*Hindwing* ample, with termen somewhat bent in middle; first line wanting; cell-dot minute, rather closely followed by the median line; the rest as on forewing.

Underside slightly brighter fawn, somewhat mixed with ochreous costally on forewing; minute cell-dots and fine postmedian line present.

Nanchuen, S. Szechuan, W. China, July–September, 2 ♂♂ in coll. Tring Museum.

Taken together with *bisinuata* Warr., but clearly distinct, not only in its broader wings and darker colour but also in the much finer and more tremulous lines, particularly in the bent median line. In all the *bisinuata* which I have examined, SC<sup>2</sup> of the forewing is much longer stalked than in *tremiscens*; though this is too variable a character to be depended upon alone, it is by no means negligible in conjunction with the other distinctions.

4. *Dithecodes phaenomeris* sp. nov.

*Euthysana inconspicua* Warr., *Novit. Zool.* xiv. 142 (1907) (nec vi. 338).

♂ ♀, 24–25 mm. Face brick-red to maroon-purple (in *inconspicua* black or blackish). Hindleg in ♂ glabrous, the inner spur well developed, though considerably shorter than the outer (in *inconspicua* the femur strongly hairy, the tibia with strong hair-pencil, the inner spur strongly atrophied, perhaps sometimes wanting). Antennal ciliation in ♂ long.

*Forewing* with areole double, SC<sup>2</sup> from cell (in *inconspicua* with areole generally single, occasionally also with a very small distal areole remaining, SC<sup>2</sup> well stalked), apex rather more pointed than in *inconspicua*, termen rather smoother; ground-colour fawn, with a slight vinaceous tinge (in *inconspicua* drab-grey); postmedian line straightish, not lunulate-dentate; fringe less whitened.—*Hindwing* with termen slightly smoother; postmedian line curved or bent in middle, not lunulate-dentate; cell-dot small (in *inconspicua* large).

Underside more reddish than in *inconspicua*, more sharply marked.

Biagi, Upper Mamberé River, British New Guinea, 5,000 ft., January—April 1906 (A. S. Meek), 4 ♂♂, 1 ♀, in coll. Tring Museum.

Warren, in erecting *Euthysana*, fell into a double error, misidentifying his own *inconspicua* and (presumably from memory after the specimens had passed out of his hands, for an error of observation is unthinkable) in attributing to his genus the ♂ hindtibial structure of *Ptychopoda*. In spite of the venational variations, both *inconspicua* and *phaenomeris* are quite closely related to *idaea* Swinh., the type of *Mnesithetis*, which I have sunk to *Dithecodes*. In the only two specimens of *inconspicua* yet known from Dutch New Guinea (Fak-Fak and Snow Mountains), possibly a local race, the distal areole is better developed than in any British New Guinea specimens I have examined, and the whole structure, as well as the scheme of markings, brings out to perfection the relationship with *idaea*. It may be added that even in *idaea* I have seen one aberration or "sport" in which the distal areole is minute in the right wing and wanting in the left.

#### 5. *Synegiodes obliquifascia* sp. nov.

♂ ♀, 36–41 mm. Very similar to *diffusifascia* Swinh. (*Tr. Ent. Soc. Lond.* 1892, p. 11), with which it has hitherto been confused.

*Forewing* with termen in general slightly more oblique; **areole double**, SC<sup>2</sup> arising from the cell; coloration on an average more inclining to buff-pink or salmon-buff, on account of rather stronger cloudings of vinaceous-pink (but variable in both species); median and postmedian bands more oblique, so that the median band of the hindwing appears more as a continuation of the latter than (as in *diffusifascia*) of the former; dark patch on postmedian between M<sup>2</sup> and SM<sup>2</sup> much less developed, oftener wanting.—*Hindwing* with a vinaceous-tinged (on the underside much darker and greyer) line proximal to the postmedian row of dots, reaching from abdominal margin to SC<sup>2</sup>.

Khasias, almost as common as *diffusifascia*. Type, Cherrapunji, April 1893, in coll. Tring Museum. Darjiling, 1 ♂, 1 ♀, July 1886 (H. J. Elwes), in coll. Tring Museum.

I have examined the venation of very extensive material in the genus *Synegiodes* and find it constant in each species—double in *hyriaria* (with SC<sup>2</sup> stalked) and in *obliquifascia* (with SC<sup>2</sup> from cell), single in *diffusifascia*, *histrionaria* and *sanguinaria*.

#### 6. *Timandra nelsoni* sp. nov.

♂ ♀, 32–37 mm. Exceedingly similar to *convectaria* Walk. (*List. Lep. Ins.*, xxiii. 800), from N. India, Shan States, China and Formosa, sometimes superficially indistinguishable. Generally larger, of a deeper ochreous tone, without the fleshy tinge which generally appears in the most brightly-coloured forms of *convectaria*.

*Forewing* with costal shade, cell-dot and generally the antemedian reddish line well developed, the oblique line less perfectly straight, showing a very faint proximal convexity; beneath rather strongly suffused, at least in and behind cell.

S. India and Ceylon. Type ♂, Madura distr., March—June 1906 (H. Campbell) in coll. Tring Museum.

Dedicated to my kind helpers, Rev. Charles Rich Nelson Burrows and Frank Nelson Pierce, to whose investigations I owe the discovery that the ♂ genitalia are quite different from those of *convectaria*, of which otherwise I should have supposed it a subspecies. Indeed, it is unique in the genus, so far as at present known, in the long, divided uncus. Further distinguished from *convectaria* in having the costa as long as valve (in *convectaria* half as long) and in the sacculus, which has the upper (hard) part fused with the lower, whereas in *convectaria* it is not fused. The antennal pectinations appear slightly longer than in *convectaria* and continued a few joints further distally.

#### 7. *Timandra oligoscia* sp. nov.

♂, 35 mm. Face red, mixed with black, narrowly pale below. Palpus mostly pale. Vertex and antennal shaft whitish. Collar dark brown. Thorax, abdomen and legs concolorous with wings.

*Forewing* moderately broad, with costa well arched distally; SC<sup>1</sup> arising well before apex of areole; pale wood-colour, with very fine grey irroration; proximal half of costal margin rather strongly shaded with grey, yet not so conspicuously dark as in *convectaria* Walk., *nelsoni* Prout and *correspondens* Hmps. n.; first line obsolete; cell-dot rather strong; the oblique rufous line rather fine, running to a short dark mark at anterior extremity of distal margin, not (as in the species named) to distal end of costa; submarginal grey line extremely fine and weak, scarcely traceable in its anterior half, little sinuate; terminal line reddish, very slender; fringe pale, tipped with pink and with an oblique pink mark at apex.—*Hindwing* with the tail at R<sup>3</sup> moderately strong; no cell-spot; the oblique red line normal; outer grey line fine, but better developed than on forewing, shaped as in *convectaria*; terminal line and fringe as on forewing, except at apex.

Underside very heavily irrorated, especially in proximal half of forewing, where the irroration is partly confluent into suffusions; costal margin of forewing yellowish; markings of upperside present, dark grey or blackish, the submarginal line, especially of forewing, better developed than above; fringes tipped with pink as above.

Vrianatong, Tibet. Type in coll. L. B. Prout.

Presumably near *correspondens*, more dusky, beneath more irrorated, first line wanting, postmedian weaker, on hindwing bent. Intermediate towards some of the Japanese forms which at present stand united as *comptaria* Walk., but which may probably embrace two or three species.

#### 8. *Ptochophyle exitela* sp. nov.

♂, 24–26 mm. Head and body concolorous with wings, the face, fillet and base of antenna more whitish. Foreleg in part tinged with red.

*Forewing* fairly broad, apex not very sharp, termen faintly subcrenulate, curved, anteriorly less oblique than in the allies; areole moderately long, SC<sup>1</sup> just stalked with the other subcostals, R<sup>2</sup> from about middle of DC; cream-colour with a tinge of buff and with vague vinaceous irrorations and suffusions; irroration strongest in the costal region, where also, especially towards the base, the ground-colour becomes more buff; a few rather noticeable costal dots in distal part; cell-dot rather large, nearly round, blackish; faint traces of a



curved line at about three-fifths, accompanied distally by a vague narrow pale band, which contains a row of indistinct spots; vague pale spots midway between this and termen, placed between  $SC^1$  and  $R^1$ , between  $R^2$  and  $M^1$  and between  $M^2$  and  $SM^2$ ; fringe pale, proximally with distinct dots at vein-ends. — *Hindwing* with termen subcrenulate, not noticeably bent at  $R^3$ ;  $M^1$  not stalked; cell-dot white; markings even more indeterminate than on forewing.

Underside almost without the irroration; cell-dot of forewing smaller than above, more vinaceous, that of hindwing almost obsolete; forewing with base of costal region vinaceous and with traces of a curved postmedian row of interneural dots; both wings with ill-defined vinaceous distal border, containing a narrow band of the ground-colour, proximally to which the vinaceous shade is narrow and somewhat interrupted.

Dongala, S. of Palos Bay, Celebes, August–September 1896 (W. Doherty), 2 ♂♂ in coll. Tring Museum.

More resembles *strigata* Warr. (NOVITATES ZOOLOGICAE, ix. 360), from the Solomons, than any of the more westerly species, but has the termen of forewing less oblique, the markings much more shadowy and the cell-dot of forewing larger.

#### 9. *Chrysocraspeda euryodia* sp. nov.

♀, 24 mm. Face whitish, with a narrow deep red band above. Palpus mixed with red on outer side. Antenna nearly simple, with the usual thickening and roughening of the basal segments. Head, thorax and abdomen above purple.

*Forewing* proximally greyish purple and with a large, broad-oval subapical area of the same colour; boundary of proximal patch slightly sinuous, from costal margin at about 3 mm. to hindmargin at nearly 6 mm.; subapical patch slenderly edged with redder purple, about 4 mm. wide, extending from  $SC^1$  nearly to  $M^1$ , its proximal and posterior edges gently curved, its distal edge nearly reaching termen in a tooth at  $R^1$ , and again at  $M^1$ , shallowly sinuate inward between the teeth; the rest of the wing chrome-yellow, at costal margin and anterior half of distal margin deeper chrome. — *Hindwing* rather elongate and with termen rather strongly convex, but not noticeably bent at  $M^1$ ; purple, with an extremely minute white, slightly dark-edged cell-dot and a deep chrome-yellow distal border of about 1 mm. width, narrowing slightly at  $M^1$ .

Underside similar, the yellow paler, hindwing with a narrow white cell-mark extending from  $SC$  nearly to  $M$ .

Ninay Valley, Central Arfak Mountains, Dutch New Guinea, 3,500 ft., February and March 1909. Type in coll. Tring Museum.

Except in shape and in its much broader yellow band, this species is near *inundata* Warr. (NOVITATES ZOOLOGICAE, v. 238), which also occurs in the same locality.

#### 10. *Chrysocraspeda auristigma* sp. nov.

♀, 21–23 mm. Similar to *aurimargo* Warr. (NOVITATES ZOOLOGICAE, iv. 216), from North Queensland, of which it may possibly prove a local race. Face whitish, only narrowly red above.

*Forewing* rather broader than in *aurimargo*, with a rather large, long-oval

cadmium-yellow, rosy-edged spot on  $DC^{2-3}$ ; ground-colour only touching termen in a slender point at  $M^1$  and not encroaching on to the fringe; the rosy line which separates the purple and yellow colours narrowed.—*Hindwing* broader than in *aurimargo*, the angle at  $M^1$  not quite so strong; boundary of ground-colour corresponding to that of forewing.

Near Oetakwa River, Snow Mountains, Dutch New Guinea, up to 3,500 ft., October—December 1910 (A. S. Meek). Type in coll. Tring Museum. Also from New Britain in the same collection.

#### 11. *Chrysocraspeda phaedra* sp. nov.

♀, 21–23 mm. Similar to *aurimargo* Warr. and *auristigma* Prout (*supra*), Face purple.

*Forewing* fairly broad, termen posteriorly less oblique than in both the species named;  $SC^1$  arising much before  $SC^5$  (in *auristigma* very little before),  $R^2$  much nearer to  $R^1$  than to  $R^3$  (in *auristigma* and *aurimargo* normal); ground-colour brighter, here and there mixed with wine-purple, especially in costal region; yellow border broader, narrowing to apex and tornus; projection of ground-colour between  $R^3$  and  $M^1$  strong, nearly but not quite reaching termen at  $M^1$ ; the yellow, red-ringed cell-spot variable in size, nearly as broad as long.—*Hindwing* rather broad, the termen waved, gibbous, but without marked angle at  $M^1$ , the prominence being equally strong at  $R^3$  and at  $M^1$ ; boundary of ground-colour corresponding to that of forewing.

Underside much brighter than in the allies, almost clear wine-purple; cell-marks weak or obsolete.

Mount Riu, 2,000 ft., Sudest Island, April 1916 (Eichhorn bros.). 2 ♀♀ in coll. Tring Museum.

#### 12. *Somatina transvehens* sp. nov.

♂ ♀, 25–27 mm. Face and vertex black. Palpus black, whitish beneath. Antenna with shaft light brown, a few blackish scales at base; in ♂ with strong teeth or rudimentary pectinations, surmounted by fascicles of long cilia. Thorax and abdomen white, the latter somewhat irrorated with brown. Hind-tibia in ♂ rather strongly dilated, spurless; tarsus abbreviated.

*Forewing* shaped nearly in *omicraria* F. (= *cana* Hmps.), the termen rather smoother, perhaps slightly less oblique; areole simple,  $SC^1$  arising from or just before its apex,  $SC^5$  very shortly stalked with  $SC^{2-4}$ ; white; costal edge as far as postmedian line very narrowly blackish fuscous; first line obsolete; cell-patch light brown, narrow, especially at its ends, but forming virtually a complete band across the wing, only slightly interrupted between  $M^2$  and fold, interruptedly edged with silvery scales; the thickest part of the band is somewhat indented on its edges, especially distally, and swells to over 1.5 mm. width about  $R^2-M^1$ ; distal markings nearly as in *omicraria*, the proximal submarginal shade rather stronger, more definitely broken into subtriangular interneural spots.—*Hindwing* with termen rather more regularly rounded than in *omicraria*; markings corresponding to those of forewing, but with the discal band almost obsolete anteriorly to SC and  $R^1$ ; some silvery dots near abdominal margin.

Underside white; costal edge of forewing with smoky tinge; terminal dots indicated, at least anteriorly.

Hainan : Manchyo, June 1902, type ♂ and a ♀ ; Mangrin, June 1904, a ♂. All in coll. Tring Museum.

This species and *Problepsis sancta* Meyr. (*Proc. Linn. Soc. N. Sth. Wales*, 2, ii. 839), with possibly one or two others, almost complete the venational transitions between *Somatina* and *Problepsis* to which I have already (NOVITATES ZOOLOGICAE, xxii. 328) called attention.

### B. NEOTROPICAL.

#### SUBFAM. HEMITHEINAE.

##### 13. *Oospila florepicta* ab. *pulchripicta* ab. nov.

♂, 34–35 mm. Smaller than typical *florepicta* Warr., the markings brighter red, with less dark admixture (beneath almost pure pinkish-vinaceous), their moss-green edgings, as well as the moss-green basal patch of forewing, obsolescent. Abdomen dorsally rather brighter reddish, this colour extending to the anal extremity.

St. Jean du Maroni, French Guiana. Type in coll. Tring Museum.

#### SUBFAM. STERRHINAE.

##### 14. *Tricentra auctidisca* sp. nov.

♂, 15 mm. Head dull purple. Antennal shaft brighter, more wine-purple. Thorax in front purple, otherwise whitish pearl-grey. Abdomen above variegated, the colouring not sharp, preponderantly ochreous-brownish anteriorly and violet-grey posteriorly.

*Forewing* with apex blunt, termen strongly curved ; glossy pearl-grey, slightly flushed with purple (in some lights more lavender) ; costal margin about to SC, distal margin for about the same width and apical region more broadly red-purple, the distal margin shading off proximally (except in apical region) into dull heliotrope-purple and purple-grey ; cell-spot white, extending the entire length of DC<sup>2</sup> <sup>3</sup>, about half as broad as long, accompanied proximally and distally by vague buff-pink shading ; an indistinct sinuous dark-grey outer line, shortly before the apical and distal border ; fringe from apex to behind R<sup>2</sup> ochre-yellow (this colour encroaching slightly on to the wing near apex), posteriorly purple with slight yellow admixture.—*Hindwing* with termen little convex, scarcely bent in middle ; only the base and costal margin (except apically) whitish ; in and beyond cell buff-pink, shading distally and at abdominal margin into lavender ; distal border red-purple, more broadly posteriorly than anteriorly ; two white cell-dots ; traces of two sinuous grey lines beyond ; fringe ochre-yellow, encroaching slightly on to distal edge of wing.

Underside glossy slate-grey, with the borders paler than above (more vinaceous) ; cell-spot of forewing as above, those of hindwing enlarged into a single oblong spot ; fringes nearly as above, but paler.

St. Jean du Maroni, French Guiana. Type in coll. Tring Museum.

Apparently related to *flavimargo* Warr. (NOVITATES ZOOLOGICAE, xii. 326), agreeing in shape.

15. *Tricentra gibbimargo* sp. nov.

♀, 18 mm. Head and body dull purplish above, mostly ochreous whitish beneath; some whitish scales across vertex between the antennae. Legs whitish, the fore and middle pairs marked with purple above and on innerside.

Wings shaped as in *commixta* Warr. (NOVITATES ZOOLOGICAE, xii. 325) or with the distal margin of forewing even more extremely convex.

*Forewing* vinaceous-rufous to brick-red, with blackish-slaty suffusions in posterior half from base to outermost line (strongest in distal part) and more feebly before the apex; costal area relieved with some light scales; lines dark grey; antemedian from one-fourth costa, oblique outward to middle of cell, here strongly bent; two outer dentate, parallel with one another and approximately with the distal edge of the ground-colour, distally edged with some yellow scales; cell-mark as in *commixta*; extreme apex and fringe pale yellow, the latter less pure posteriorly than anteriorly.—*Hindwing* with the brick-red element and admixture of yellow scales somewhat stronger at base and in the region of the two outer lines; yellow cell-mark narrower than on forewing, almost interrupted in middle; distal margin extremely narrowly pale yellow, crenulate-edged proximally; fringe pale yellow.

Underside more uniform, glossy vinaceous grey; base and hindmargin of forewing, base of hindwing, both cell-marks, apex of forewing and fringes whitish yellow.

St. Jean du Maroni, French Guiana. Type in coll. Tring Museum.

16. *Tricentra* (?) *amibomena* sp. nov.

♀, 17 mm. Face whitish. Head and body above vinaceous-buff, with slight purplish suffusions, the patagia more yellowish; underside and legs pale.

*Forewing* rather broad, costa shouldered at base, then straightish, apex almost rectangular, termen rather suddenly bent behind  $M^1$ ; areole single,  $SC^1$  arising before its apex; pale cream-buff to vinaceous buff, with some coarse reddish irroration, an ill-defined distal area between  $R^1$  and hindmargin more purplish, a small apical patch narrowing to a point before  $R^3$  clear cream-buff; antemedian and median lines zigzag, smoky, ill-defined; postmedian slightly oblique and straightish from beyond two-thirds costa to  $M^1$ , here angulated, thence zigzag to hindmargin, accompanied by a small dark spot proximally in submedian area; two ill-defined ochre-yellow blotches in middle of wing, the first bounded distally by the antemedian line, the second and larger by the cell-mark and median shade; cell-mark white, double, nearly confluent (the posterior elongate); some slight ochre-yellow shading distally to the postmedian line; an ill-defined straightish dark line or shade proximal to the pale apical patch; terminal line mostly very feeble, thickened between  $R^3$  and  $M^2$ ; fringe yellowish cream-buff, dark-mixed opposite  $R^3$ — $M^2$ .—*Hindwing* with costa relatively long, apex round-pointed, termen little convex; buff-yellow, with some dull reddish and violet-grey irrorations in places, condensed into small subbasal spots, irregular, more or less confluent spots along abdominal margin, small costal patches near base and at origin of a faint wavy postmedian line, and at distal margin, especially in abdominal half; cell-dot white, small.

*Forewing* beneath with the cream-buff and ochre-yellow parts paler, costal and apical regions somewhat vinaceous, distal half otherwise somewhat strongly



suffused with grey: the whole glossy, confused; whitish cell-mark discernible. — *Hindwing* beneath glossy whitish buff, very slightly tinged with whitish at termen.

St. Jean du Maroni, French Guiana. Type in coll. Tring Museum.

This species and *percrocea* Warr. (*Proc. U.S. Nat. Mus.* xxx. 465) will probably have to be separated from *Tricentra* on account of the single areole.

#### 17. *Semaepopus nossis* sp. nov.

♂, 22–23 mm. Face and palpus brown, inclining to hazel; palpus paler beneath, third joint shorter than in *caecaria* Hb. (*Verz. bek. Schmett.* p. 502). Vertex and base of antenna white; antennal ciliation of moderate length, almost sessile. Thorax and abdomen concolorous with wings, the abdomen becoming paler posteriorly. Hindtibia strongly tufted, the inner tuft ochreous brown, not—as in *caecaria*—mixed with red; tarsus nearly as in *caecaria*.

Wings shaped about as in *caecaria*.—*Forewing* with SC<sup>2</sup> from cell; cinnamon, the proximal and median areas minutely but rather thickly irrorated with smoke-grey; lines darker smoke-grey, not sharp; antemedian before one-third, excurved in and behind cell, rather strongly angulated inward on M and SM<sup>2</sup>; postmedian less strongly denticulated than in *caecaria*, less deeply incurved posteriorly; subterminal dots somewhat as in *caecaria*, but not accompanied by spots; spots between these and termen in anterior half of wing and near tornus about as in *caecaria*; cell-ring small, blackish, with white pupil; terminal dots elongate.—*Hindwing* similarly coloured and marked.

Underside paler, with shadowy markings.

Ciudad Bolivar, Venezuela (S. M. Klages), June 24th, 1898 (type), August 16th, 1898 (paratype, slightly more reddish in tone), both in coll. Tring Museum. 2 ♀♀ in coll. British Museum, also from Venezuela (Dyson, 1847) are larger more heavily marked.

#### 18. *Semaepopus subrubra dominicana* subsp. nov.

♀, 24–25 mm. Rather smaller than *s. subrubra* Kaye (*Tr. Ent. Soc. Lond.* 1901, p. 148, t. 6, f. 19), from Trinidad. Ground-colour more mixed with orange or rufous—varying from hazel towards vinaceous-rufous—more uniform; postmedian line less strongly dentate; termen with fine dark dashes instead of the dots.

Dominica, 3 ♀♀ in coll. Tring Museum.

Possibly a separate species. Labelled by Warren (MS.) *Dichromatopodia pallida* ab. *purpurata*, but has no connection at all with *S. pallida* Warr. (NOVITATES ZOOLOGICAE, ii. 94), from the Amazons. As it is less purplish than *s. subrubra* I feel obliged to depart from my ordinary practice of utilising available manuscript names.

#### 19. *Semaepopus pustulata aurantirufa* subsp. nov.

33 mm. The “deep yellow” (almost clear orange) of *p. pustulata* Warr. (NOVITATES ZOOLOGICAE, xi. 182), from S.E. Peru, changed to ochraceous-rufous or orange-rufous, the discal rings considerably reduced in size. Dark dorsal patch on abdomen weakened.

Costa Rica (W. Schaus). Type, Sixola River, March, in coll. Tring Museum.

20. *Semaeopus redundata* sp. nov.

♂, 26–29 mm. Very similar to *bimacula* Warr. (NOVITATES ZOOLOGICAE, iv. 438, as *Haemalea*) except in the ground-colour, which is browner (much less tawny or tawny-ochraceous).

*Forewing* with postmedian line more strongly sinuous, on an average rather farther from termen; median shade thick.—*Hindwing* with cell-dot more strongly developed above and beneath; the angulated antemedian line conspicuous (often obsolescent in *bimacula*); a well-developed pale-centred blotch at anal angle.

Underside generally more strongly marked than in *bimacula*.

Carabaya, S.E. Peru: La Oroya, 3,100 ft., type and others; Rio Huacamay, 3,100 ft.; Tinguri, 3,400 ft. All in coll. Tring Museum, collected by G. Ockenden.

The ♂ genitalia have been kindly examined by Rev. C. R. N. Burrows and shown to differ considerably from those of *bimacula*. The latter has large costal arm (which is absent in *redundata*), the lower edge of the valve smooth (sharply jagged in *redundata*). In *bimacula* there is a very distinct “juxta,” which is not discoverable in *redundata*. The gnathos is better developed in *redundata* and the saccus and the sternal anal edge of the eighth segment differ appreciably. In *redundata* the fore part of the penis is nearly twice as long as in *bimacula*.

21. *Semaeopus discors* sp. nov.

♂, 22–23 mm. Face deep red at edges, in middle mixed with olive-yellow. Palpus rather stout, with third joint quite short; deep red. Vertex and antennal shaft whitish ochreous; joints of antenna scarcely projecting, ciliation moderate. Thorax above greenish olive, abdomen more buff; both beneath tinged with red. Hindtarsus with first joint very strongly swollen and heavily clothed.

*Forewing* with apex moderately produced, termen smooth, curved; greenish olive, costal edge narrowly orange-ochraceous; lines more yellowish olive; antemedian fine and indistinct, wavy, about midway between base and cell-spot, not reaching costa; median thicker, rarely reaching costa, gently curved well beyond the cell-spot, rather strongly incurved behind; postmedian rather fine, rather sharply lunulate-dentate, very slightly incurved between the radials and again posteriorly; cell-dot large, round, black; termen with minute, indistinct whitish dots at the veins, preceded by a very fine, very indistinct line of darker green than the ground-colour; fringe reddish grey proximally, paler distally.—*Hindwing* with apex square, termen smooth, gently rounded, tornus pronounced; costal margin pinkish; antemedian line wanting; postmedian more sinuous than on forewing; cell-mark white, slender, elongate; termen and fringe as on forewing.

Both wings beneath vinaceous, with cell-mark of forewing and median and postmedian lines faintly expressed, rather more rufous; cell-mark of hindwing whitish.

Bogotá, Colombia, type in coll. Tring Museum; other examples from British Guiana and the Amazons.

Evidently near *pallida* Warr. (NOVITATES ZOOLOGICAE, ii. 94, as *Dichromato-*

*podia*), but with the apex sharper, median shade farther from the cell-spot, postmedian more dentate and less curved, underside redder. *Cyphopteryx incurvaria* Guen. (*Spec. Gén. Lép.* ix. 404; Oberth., *Et. Lép.* xii., fig. 3339) looks, from the figure, almost like a secondary sexual modification of this species. *Dithecodes* (= *Mnesithetis*) *rufipuncta* Warr. (*Proc. U.S. Nat. Mus.* xxx. 452) must also be very similar, except for the reddish cell-spot, but Dr. Dyar (*in litt.* August 7th, 1917) writes that in that species "the tibia ( $\delta$ ) is slender, with a small pair of spurs."

## 22. *Semaeopus offlexa* sp. nov.

$\delta$ , 29 mm. Considerably larger than *deflexa* Warr. (NOVITATES ZOOLOGICAE, vii. 152), hindwing quite differently shaped, the termen being much more strongly convex, noticeably bent in the middle. Ground-colour much lighter and brighter, inclining to heliotrope-purple.

*Forewing* with the postmedian line not quite as strongly bent as in *deflexa*, otherwise similar; the rufous edging of the lines stronger; termen without black line, the white dots at the ends of the veins rather conspicuous.—*Hindwing* with the line straighter than in *deflexa*; termen marked as on forewing.

Calama, Rio Madeira, below Rio Machados, August–October 1907 (W. Hoffmanns). Type in coll. Tring Museum.

## 23. *Semaeopus ascia* sp. nov.

$\delta$ , 19–20 mm.;  $\varphi$ , 20–23 mm.

*Forewing* vinaceous cinnamon, commonly more vinaceous in distal area, or sometimes throughout; distal area often with some blackish dusting, which sometimes forms ill-defined clouds just beyond the postmedian line; markings nearly as in *oaxacana* Schaus (*Tr. Amer. Ent. Soc.*, xxvii. 189), and *osteria* Druce (*Biol. Centr.-Amer., Lep. Het.*, ii. 537, t. 99, fig. 9), but with the lines nearer together, the postmedian rather straighter still, the median shade entirely wanting; terminal dark dashes weaker, sometimes almost obsolete.—*Hindwing* similarly without median shade, the postmedian running straighter across the wings, nearer to the cell-mark (in the species named curved more or less parallel with termen); terminal dark dashes as on forewing.

Ciudad Bolivar, Venezuela, April–June 1898 (S. M. Klages). A short series, including the type (May 9th) in coll. Tring Museum. Also in the same collection from Surinam, N. Argentina, and Paraguay.

I cannot find that this widely-distributed little species has ever been named. Warren labelled it *sigillata* Walk., or on one occasion *decalvaria* Möschl.

## 24. *Semaeopus hoffmannsi* sp. nov.

$\delta$ , 27 mm. Head dull red; crown somewhat mixed with black. Thorax concolorous with wings; abdomen slightly paler.

*Forewing* rather broader than in the rest of the group (*Dichromatopodia* Warr.), apex rather blunt, termen gently curved, not very oblique; uniform light chocolate; lines fine, pale buff; antemedian apparently angulated sub-costally, but almost obsolete anteriorly, very slightly incurved between SC and SM<sup>2</sup>, nearly parallel with postmedian; cell-spot small, not elongate, white with a few grey scales and a slight blackish mark proximally; postmedian almost

straight, very faintly bicurved; a very fine pale olive-buff terminal line, accompanied proximally by slight olive-buff vein-dots and an indistinct darkened line between them; fringe paler in distal than in proximal half, with very slight pale dividing-line.—*Hindwing* rather broad, termen strongly convex, bent in middle; first line wanting; cell-dots small, black; postmedian very slightly (scarcely) curved; termen and fringe as on forewing.

Underside more vinaceous; both wings with small dark discal dot and ill-defined, rather thick, distally pale-margined postmedian line.

Calama, Rio Madeira, below Rio Machados, August–October 1917 (W. Hoffmanns). Type in coll. Tring Museum.

### *Lipotaxia* gen. nov.

Face smooth. Palpus rather short, second joint with appressed scales, third joint short and slender. Antenna in both sexes ciliated. Pectus hairy. ♂ hindtibia with strong hair-pencil, hindtarsus short; ♀ hindtibia with terminal spurs only. Forewing with termen smooth, curved, oblique; areole double, SC<sup>2</sup> from cell, R<sup>2</sup> from middle of DC. Hindwing with abdominal margin rather long, termen convex, nearly smooth; SC<sup>2</sup> not stalked.

Type of the genus: *Lipotaxia rubicunda* (Warr.) = *Lipomelia rubicunda* Warr., NOVITATES ZOOLOGICAE, xii. 324.

Probably a direct development of *Semaecopus*, differing in the absence of the median spurs on the ♀ hindleg.

### 25. *Lipotaxia* (?) *segmentata subvestita* subsp. nov.

♂. Differs from name-typical *segmentata* Warr. (NOVITATES ZOOLOGICAE, xiv. 220), from Peru—which, although the ♀ is unknown, will almost certainly have to be transferred to *Lipotaxia*, being manifestly a near relative of *rubicunda*—in having the outer line of the hindwing close to the termen, the grey shade beyond at its widest point considerably less than 1 mm. in breadth, and especially in having the hindwing beneath clothed nearly throughout with rough ochreous hair-scales, a patch along the medians developed into longish hair.

Fonte Boa, Upper Amazons, July 1906 (S. M. Klages). Type in coll. Tring Museum.

Should perhaps be regarded as a separate species.

### 26. *Dithecodes mys* sp. nov.

♂, 23 mm. Face red. Vertex and base of antenna white. Antenna with minute ciliation. Occiput narrowly reddish. Collar ochreous. Thorax and abdomen grey above, whitish beneath.

*Forewing* broad, termen smooth, oblique, slightly curved; both areoles rather narrow, SC<sup>2</sup> from stalk of SC<sup>1+2</sup>, R<sup>2</sup> from appreciably before middle of DC; uniform mouse-grey with strong gloss, changing according to the fall of the light to slate-grey or almost pearl-grey; costal edge slightly darker; fringe paler.—*Hindwing* with termen rounded; as forewing, except costal edge.

Underside the same, or scarcely paler.

St. Jean du Maroni, French Guiana. Type in coll. Tring Museum.



27. *Somatina exaeta* sp. nov.

♂, 32 mm.; ♀, 34 mm. Head red-brown. Palpus short, beneath pale yellowish brown. Antennal joints in ♂ scarcely projecting; ciliation rather long, slender. Thorax and abdomen pale buff, paler beneath, the thorax above with a tinge of olive, the abdomen of vinaceous. Hindleg in ♂ very short; tibia shorter than femur, strongly dilated, rough-scaled, clothed above with long projecting scales; tarsus strongly abbreviated.

*Forewing* with SC<sup>2</sup> stalked, R<sup>2</sup> scarcely before middle of DC; costal margin except towards apex purple (vinaceous, partly mixed with blue-black); ground-colour otherwise cream-buff, in places tinged with olive, palest at costa, in apical area (broadly) and in distal area, about the cell-mark and between median and postmedian bands; three diffuse, irregular bands of an ochreous tone, mixed in the proximal part of the postmedian and posterior part of the others with vinaceous; antemedian oblique, anteriorly somewhat curved, from beyond one-third hindmargin to SC near end of cell; median curved beyond the cell-mark, slightly incurved behind, thickening to hindmargin at three-fifths; postmedian strongly excurved in a great part of its course, slightly lobed about R<sup>2</sup> and M<sup>1</sup>, slightly incurved behind, reaching hindmargin rather near tornus; a very indistinct elongate ochraceous cell-mark; an ochraceous, dark-mixed sinuous subterminal line from close to tornus, approximately parallel with the postmedian band, in the ♂ obsolete anteriorly, in the ♀ here more strongly sinuous, receding from termen in front of R<sup>1</sup>, not quite reaching costa; terminal line slight; fringe whitish, weakly chequered.—*Hindwing* with SC<sup>2</sup>—R<sup>1</sup> connate or very shortly stalked; whitish at base, otherwise buff, clouded with vinaceous; two large blue-black dots on discocellulars, slightly connected by a brown shade; median and postmedian shades strongly developed, the former crossing or placed only just beyond the discocellulars, the latter approximately parallel with termen; a thick, slightly sinuous subterminal brown line, beyond which the ground-colour is somewhat more whitish.

Underside pale cream-buff, the forewing clouded (except at distal and posterior margins) with salmon-buff and with the costal edge proximally more rufous; both wings with salmon-buff terminal line.

Carabaya, S. E. Peru: La Oroya, Rio Inambari, 3,100 ft., September 1904, dry season (G. Ockenden), type ♂ in coll. Tring Museum; Quinton, 5,000 ft., January 1905 (G. Ockenden), paratype ♀ in coll. Joicy.

Though lighter, this species superficially recalls *Scelolophia* (*Crypsityla*) *quinquelineata* Dogn. (*Le Nat.*, xii. 10), but the ♂ lacks the hair-tuft beneath the hindwing, the ♀ hindtibia has 4 spurs and the venation is different. I refer to *Somatina*, in the lack of good differential characters, all the *Scopula*-like species with double arcole (*Acratodes*, "*Lipomelia*" *admirabilis* Oberth., the *adela* group, etc., etc.). Even *Xystrota* Hulst scarcely differs except in the rougher scaling and pectinate ♂ antenna, and its genitalia show a close affinity with those of *S. adela* Dogn. *Semaepus*, sens. lat. (vide NOVITATES ZOOLOGICAE, xxiv. 378) though offering few tangible differential characters from *Somatina*, is shown by the genitalia to belong to the *Cosymbia* section of the subfamily.

28. *Eumacrodus euthysticta* sp. nov.

♂ ♀, 18–19 mm. Very similar to small specimens of *Euacidalia orbella* Druce (*Biol. Centr.-Amer., Lep. Het.* ii. 145, t. 54, fig. 26). ♂ hindtarsus minuter, hind-

tibia rather strongly developed, ♀ with 3 spurs. Abdomen in ♂ longer, approaching that of *gracilis* Warr. (NOVITATES ZOOLOGICAE, xii. 322).

*Forewing* rather darker than in *orbelia*; terminal line more slender, more nearly continuous.—*Hindwing* with the excisions in termen rather deep; cell-dot in general larger than in *orbelia*.

Brazil: Organ Mountains, near Tijuea, Rio Janeiro (S. R. Wagner), type ♂ and paratype ♀ in coll. British Museum; Rio Janeiro (Mathew), ♀ in coll. Joicey. Paraguay: Sapucay, October—November 1903 (W. Foster), ♀ in coll. British Museum.

This species was mentioned by me in 1910 (*Ann. Mag. Nat. Hist.* (8. vi. 244) under the genus *Euptychopoda*. It may possibly prove necessary to merge in one the three kindred forms *Euacidalia* Pack. (areole double, ♀ hindtibia with two spurs), *Eumacrodes* Warr. (areole double, ♀ hindtibia with three spurs\*) and *Euptychopoda* Prout (areole single, ♀ hindtibia with three spurs), but if only one is sunk to *Euacidalia* it should be *Eumacrodes*, the ♀ tibial armature being in this instance less essential than the venation. *Euptychopoda* Prout, *loc. cit.*, which I find sinks to *excilinea* Warr. (*Proc. U.S. Nat. Mus.* xxx. 444) differs from *Eumacrodes euthysticta*, apart from the single areole, in the much more undulate subterminal line, etc.

\* I base this character on a worn ♀ from Trinidad in coll. British Museum. Warren's type of *gracilis*, a ♂ from Venezuela, remains unique in coll. Tring Museum, but I have a ♂ from Caracas and I consider it fairly safe to sink the name to *punctulata* Snell, (*Tijd. Ent.* xxx. 50. t. 4. f. 4) from Curaçao. From this, the new species differs in the lack of subcostal angulation of the postmedian line, less projecting antennal joints, with less extremely long ciliation, minute hindtarsus, large cell-dot of hindwing.

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